MS23F301TA*

Microwave Oven

Owner's Instructions & Cooking Guide

imagine the possibilities

Thank you for purchasing this Samsung product.

Please be advised that the Samsung warranty does NOT cover service calls to explain product operation, correct improper installation, or perform normal cleaning or maintenance.

Planet First **100 % Recycled Paper**

This manual is made with 100 % recycled paper.

SAMSUNG

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safety information

USING THIS INSTRUCTION BOOKLET

You have just purchased a SAMSUNG microwave oven. Your Owner's Instructions contains valuable information on cooking with your microwave oven:

- Safety precautions
- Suitable accessories and cookware
- Useful cooking tips
- Cooking tips

LEGEND FOR SYMBOLS AND ICONS

WARNING — Hazards or unsafe practices that may result in **severe personal injury or death**.

CAUTION — Hazards or unsafe practices that may result in **minor personal injury or property damage**.

- Warning; Fire hazard
- Warning; Hot surface
- Warning; Electricity
- Warning; Explosive material
- Do NOT attempt.
- Do NOT touch.
- Do NOT disassemble.
- Follow directions explicitly.
- Unplug the power plug from the wall socket.
- Make sure the machine is grounded to prevent electric shock.
- Call the service center for help.
- Note
- Important

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IMPORTANT SAFETY INSTRUCTIONS

READ CAREFULLY AND KEEP FOR FUTURE REFERENCE.

Make sure that these safety precautions are obeyed at all times.

Before using the oven, confirm that the following instructions are followed.

⚠ WARNING (Microwave function only)
WARNING: If the door or door seals are damaged, the oven must not be operated until it has been repaired by a competent person.
WARNING: It is hazardous for anyone other than a competent person to carry out any service or repair operation that involves the removal of a cover which gives protection against exposure to microwave energy.
This appliance is intended to be used in household only.

WARNING: Only allow children to use the oven without supervision when adequate instructions have been given so that the child is able to use the oven in a safe way and understands the hazards of improper use.
WARNING: This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children unless they are aged from 8 years and above and supervised.
Only use utensils that are suitable for use in microwave ovens.
When heating food in plastic or paper containers, keep an eye on the oven due to the possibility of ignition.

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★	The microwave oven is intended for heating food and beverages. Drying of food or clothing and heating of warming pads, slippers, sponges, damp cloth and similar may lead to risk of injury, ignition or fire.
⇄	If smoke is emitted, switch off or unplug the appliance and keep the door closed in order to stifle any flames.
★	**WARNING:** Microwave heating of beverages can result in delayed eruptive boiling, therefore care must be taken when handling the container.
★	**WARNING:** The contents of feeding bottles and baby food jars shall be stirred or shaken and the temperature checked before consumption, in order to avoid burns.
⊘	Eggs in their shell and whole hard-boiled eggs should not be heated in microwave ovens since they may explode, even after microwave heating has ended.
★	The oven should be cleaned regularly and any food deposits removed.

☛	Failure to maintain the oven in a clean condition could lead to deterioration of the surface that could adversely affect the life of the appliance and possibly result in a hazardous situation.
⊘	The appliance is not intended for installing in road vehicles, caravans and similar vehicles etc.
★	This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
★	Children should be supervised to ensure that they do not play with the appliance.
✆	If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
⊘	**WARNING:** Liquids and other foods must not be heated in sealed containers since they are liable to explode.

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	The appliance should not be cleaned with a water jet.
	This oven should be positioned proper direction and height permitting easy access to cavity and control area.
	Before using the your oven first time, oven should be operated with the water during 10 minute and then used.
	If the oven generates a strange noise, a burning smell, or smoke is emitted, unplug the power plug immediately and contact your nearest service center.
	The microwave oven has to be positioned so that plug is accessible.
	The microwave oven is intended to be used on the counter or counter top use only, the microwave oven shall not be placed in a cabinet.

⚠ WARNING (Oven function only) - Optional	
	WARNING: When the appliance is operated in the combination mode, children should only use the oven under adult supervision due to the temperatures generated.

	During use the appliance becomes hot. Care should be taken to avoid touching heating elements inside the oven.
	WARNING: Accessible parts may become hot during use. Young children should be kept away.
	A steam cleaner is not to be used.
	WARNING: Ensure that the appliance is switched off before replacing the lamp to avoid the possibility of electric shock.
	WARNING: The appliance and its accessible parts become hot during use. Care should be taken to avoid touching heating elements. Children less than 8 years of age shall be kept away unless continuously supervised.
	The temperature of accessible surfaces may be high when the appliance is operating.
	The door or the outer surface may get hot when the appliance is operating.
	Keep the appliance and its cord out of reach of children less than 8 years.

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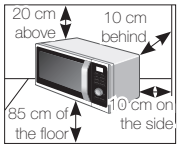
★	This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
⃠	Do not use harsh abrasive cleaners or sharp metal scrapers to clean the oven door glass since they can scratch the surface, which may result in shattering of the glass.
⃠	Appliances are not intended to be operated by means of an external timer or separate remote-control system.

INSTALLING YOUR MICROWAVE OVEN

Place the oven on a flat level surface 85 cm above the floor. The surface should be strong enough to safety bear the weight of the oven.



1. When you install your oven, make sure there is adequate ventilation for your oven by leaving at least 10 cm (4 inches) of space behind and, on the sides of the oven and 20 cm (8 inches) of space above.

2. Remove all packing materials inside the oven.

3. Install the roller ring and turntable. Check that the turntable rotates freely. (Turntable type model only)

4. This microwave oven has to be positioned so that plug is accessible.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
For your personal safety, plug the cable into a proper AC earthed socket.

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- Do not install the microwave oven in hot or damp surroundings like next to a traditional oven or radiator. The power supply specifications of the oven must be respected and any extension cable used must be of the same standard as the power cable supplied with the oven. Wipe the interior and the door seal with a damp cloth before using your microwave oven for the first time.

CLEANING YOUR MICROWAVE OVEN

The following parts of your microwave oven should be cleaned regularly to prevent grease and food particles from building up:

- Inside and outside surfaces
- Door and door seals
- Turntable and Roller rings (Turntable type model only)

- **ALWAYS** ensure that the door seals are clean and the door closes properly.
- Failure to maintain the oven in a clean condition could lead to deterioration of the surface that could adversely affect the life of the appliance and possibly result in a hazardous situation.

1. Clean the outside surfaces with a soft cloth and warm, soapy water. Rinse and dry.
2. Remove any splashes or stains on the inside surfaces of oven with a soapy cloth. Rinse and dry.
3. To loosen hardened food particles and remove smells, place a cup of diluted lemon juice in the oven and heat for ten minutes at maximum power.
4. Wash the dishwasher-safe plate whenever necessary.

- **DO NOT** spill water in the vents. **NEVER** use any abrasive products or chemical solvents. Take particular care when cleaning the door seals to ensure that no particles:
  - Accumulate
  - Prevent the door from closing correctly
- **Clean** the microwave oven cavity right after each use with a mild detergent solution, but let the microwave oven cool down before cleaning in order to avoid injury.

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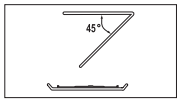
When cleaning the upper part inside the cavity, it will be convenient to turn heater downward by 45 ° and clean it. (Swing heater model only)



STORING AND REPAIRING YOUR MICROWAVE OVEN

A few simple precautions should be taken when storing or having your microwave oven serviced.
The oven must not be used if the door or door seals are damaged:

- Broken hinge
- Deteriorated seals
- Distorted or bent oven casing

Only a qualified microwave service technician should perform repair.

- **NEVER** remove the outer casing from the oven. If the oven is faulty and needs servicing or you are in doubt about its condition:
  - Unplug it from the wall socket
  - Contact the nearest after-sales service centre

- If you wish to store your oven away temporarily, choose a dry, dustfree place. **Reason :** Dust and damp may adversely affect the working parts in the oven.
- This microwave oven is not intended for commercial use.
- The Light bulb should not be replaced in person for safety reasons. Please contact nearest authorised Samsung customer care centre to arrange for a qualified engineer to replace the bulb.

⚠ WARNING					
	Only qualified staff should be allowed to modify or repair the appliance.	✓	✓	✓	✓
	Do not heat liquids and other food in sealed containers for microwave function.	✓	✓	✓	✓
	For your safety, do not use high-pressure water cleaners or steam jet cleaners.	✓	✓	✓	✓
	Do not install this appliance; near heater, inflammable material; in a humid, oily or dusty location, in a location exposed to direct sunlight and water or where gas may leak; on un level ground.	✓	✓	✓	✓
	This appliance must be properly grounded in accordance with local and national codes.	✓	✓	✓	✓
	Remove all foreign substances such as dust or water from the power plug terminals and contact points using a dry cloth on a regular basis.	✓	✓	✓	✓

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	Do not pull or excessively bend or place heavy objecton the power cord.	✓	✓	✓	✓
	In the event of a gas leak (such as propane gas, LP gas, etc.), ventilate immediately without touching the power plug.	✓	✓	✓	✓
	Do not touch the power plug with wet hands.	✓	✓	✓	✓
	Do not turn the appliance off by unplugging the power plug while an operation is in progress.	✓	✓	✓	✓
	Do not insert fingers or foreign substances, If any foreign substance such as water has entered the appliance, unplug the power plug and contact your nearest service centre.	✓	✓	✓	✓
	Do not apply excessive pressure or impact to the appliance.	✓	✓	✓	✓
	Do not place the oven over a fragile object such as a sink or glass object.	✓	✓		
	Do not use benzene, thinner, alcohol, steam cleaner or high pressure cleaner to clean the appliance.	✓	✓	✓	✓
	Ensure that the power voltage, frequency and current are the same as those of the product specifications.	✓	✓		✓
	Plug the power plug into the wall socket firmly. Do not use a multiple plug adapter, an extension cord or an electric transformer.	✓	✓	✓	
	Do not hook the power cord on a metal object, insert the power cord between the objects or behind the oven.	✓	✓	✓	
	Do not use a damaged power plug, damaged power cord or loose wall socket. When the power plug or power cord is damaged, contact your nearest service centre.	✓	✓	✓	✓

	Do not pour or directly spray water onto the oven.	✓	✓		
	Do not place objects on the oven, inside or on the door of the oven.	✓	✓	✓	
	Do not spray volatile material such as insecticide onto the surface of the oven.	✓	✓		
	Do not store flammable materials in the oven. Take special care when heating dishes or drinks that contain alcohol as alcohol vapours may contact a hot part of the oven.	✓		✓	✓
	Keep children away from the door when opening or closing it as they may bump themselves on the door or catch their fingers in the door.	✓	✓	✓	✓
	WARNING: Microwave heating of beverages can result in delayed eruptive boiling, therefore care must be taken when handling the container; To prevent this situation ALWAYS allow a standing time of at least 20 seconds after the oven has been switched off so that the temperature can equalize. Stir during heating, if necessary, and ALWAYS stir after heating. In the event of scalding, follow these FIRST AID instructions: • Immerse the scalded area in cold water for at least 10 minutes. • Cover with a clean, dry dressing. • Do not apply any creams, oils or lotions.	✓	✓	✓	✓
	Do not put the tray or rack in water shortly after cooking because it may cause breakage or damage of the tray or rack.				✓
	Do not operate the microwave oven for deep fat frying because the oil temperature cannot be controlled. This could result in a sudden boil over of the hot liquid.	✓			✓

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⚠ CAUTION					
★	Only use utensils that are suitable for use in microwave ovens; DO NOT use any metallic containers, Dinnerware with gold or silver trimmings, Skewers, forks, etc. Remove wire twist ties from paper or plastic bags. Reason: Electric arcing or sparking may occur and may damage the oven.	✓		✓	✓
⃠	Do not use your microwave oven to dry papers or clothes.	✓		✓	✓
★	Use shorter times for smaller amounts of food to prevent overheating and burning food.	✓		✓	✓
⃠	Do not immerse the power cable or power plug in water and keep the power cable away from heat.	✓	✓		
⃠	Eggs in their shell and whole hard-boiled eggs should not be heated in microwave ovens since they may explode, even after microwave heating has ended; Also do not heat airtight or vacuum-sealed bottles, jars, containers, nuts inshells, tomatoes etc.			✓	✓
⃠	Do not cover the ventilation slots with cloth or paper. They may catch fire as hot air escapes from the oven. The oven may also overheat and switch itself off automatically, and will remain off until it cools sufficiently.	✓		✓	
✋	Always use oven mitts when removing a dish from the oven to avoid unintentional burns.			✓	
★	Stir liquids halfway during heating or after heating ends and allow the liquid stand at least 20 seconds after heating to prevent eruptive boiling.			✓	
★	Stand at arms length from the oven when opening the door to avoid getting scalded by escaping hot air or steam.			✓	
⃠	Do not operate the microwave oven when it is empty. The microwave oven will automatically shut down for 30 minutes for safety purposes. We recommend placing a glass of water inside the oven at all times to absorb microwave energy in case the microwave oven is started accidentally.	✓			✓
★	Install the oven in compliance with the clearances stated in this manual. (See installing your microwave oven.)	✓		✓	
★	Take care when connecting other electrical appliances to sockets near the oven.	✓	✓	✓	

PRECAUTIONS TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY. (MICROWAVE FUNCTION ONLY)

Failure to observe the following safety precautions may result in harmful exposure to microwave energy.

(a) Under no circumstances should any attempt be made to operate the oven with the door open or to tamper with the safety interlocks (door latches) or to insert anything into the safety interlock holes.

(b) Do NOT place any object between the oven door and front face or allow food or cleaner residues to accumulate on sealing surfaces. Ensure that the door and door sealing surfaces are kept clean by wiping after use first with a damp cloth and then with a soft dry cloth.

(c) Do NOT operate the oven if it is damaged until it has been repaired by a qualified microwave service technician trained by the manufacturer. It is particularly important that the oven door closes properly and that there is no damage to the:
(1) door (bent)
(2) door hinges (broken or loose)
(3) door seals and sealing surfaces

(d) The oven should not be adjusted or repaired by anyone other than a properly qualified microwave service technician trained by the manufacturer.

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Samsung will charge a repair fee for replacing an accessory or repairing a cosmetic defect if the damage to the unit and/or damage to or loss of the accessory was caused by the customer. Items this stipulation covers include:

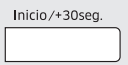
(a) A Dented, Scratched, or Broken Door, Handle, Out-Panel, or Control Panel.

(b) A Broken or missing Tray, Guide Roller, Coupler, or Wire Rack.

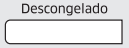
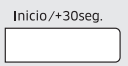
- Use this appliance only for its intended purpose as described in this instruction manual. Warnings and Important Safety Instructions in this manual do not cover all possible conditions and situations that may occur. It is your responsibility to use common sense, caution, and care when installing, maintaining, and operating your appliance.
- Because these following operating instructions cover various models, the characteristics of your microwave oven may differ slightly from those described in this manual and not all warning signs may be applicable. If you have any questions or concerns, contact your nearest service centre or find help and information online at www.samsung.com.
- This microwave oven is supposed for heating food. It is intended for domestic home-use only. Do not heat any type of textiles or cushions filled with grains, which could cause burns and fire. The manufacturer cannot be held liable for damage caused by improper or incorrect use of the appliance.
- Failure to maintain the oven in a clean condition could lead to deterioration of the surface that could adversely affect the life of the appliance and possible result in a hazardous situation.

quick look-up guide

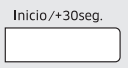
If you want to cook some food.

	1. Place the food in the oven. Select the power level by pressing the **Microwave** button one or more times.
	2. Select the cooking time by turning the **Dial Knob** as required.
	**2.** Press the **Start/+30s** button. **Result:** Cooking starts. The oven beeps 4 times when cooking is over.

If you want to Auto defrost some food.

	**1.** Place the frozen food in the oven. Select the type of food that you are cooking by pressing the **Auto Defrost** button.
	2. Select the weight by turning the **Dial Knob** as required.
	**3.** Press the **Start/+30s** button.

If you want to add extra 30 seconds.

	Leave the food in the oven. Press **Start/+30s** one or more times for each extra 30 seconds that you wish to add.

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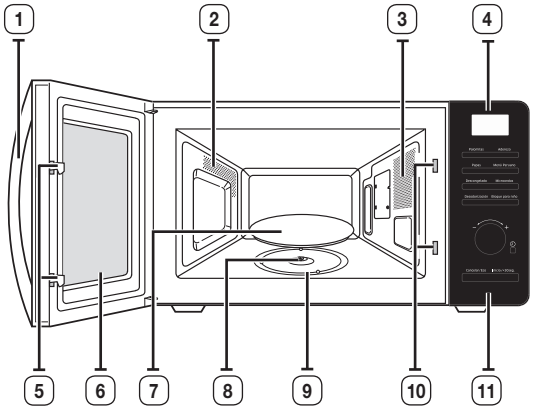
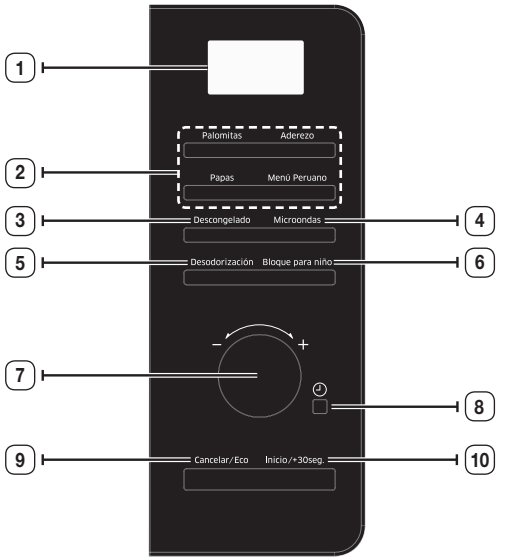
OVEN



1. DOOR HANDLE
2. VENTILATION HOLES
3. LIGHT
4. DISPLAY
5. DOOR LATCHES
6. DOOR
7. TURNTABLE
8. COUPLER
9. ROLLER RING
10. SAFETY INTERLOCK HOLES
11. CONTROL PANEL

CONTROL PANEL



1. DISPLAY
2. AUTO COOK BUTTONS
3. AUTO DEFROST BUTTON
4. MICROWAVE BUTTON
5. DEODORIZATION BUTTON
6. CHILD LOCK BUTTON
7. DIAL KNOB (WEIGHT/SERVING/TIME)
8. CLOCK SETTING BUTTON
9. CANCLE/ECO BUTTON
10. START/+30s BUTTON

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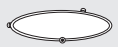
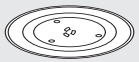
ACCESSORIES

Depending on the model that you have purchased, you are supplied with several accessories that can be used in a variety of ways.

	**1. Roller ring**, to be placed in the centre of the oven. **Purpose:** The roller ring supports the turntable.
	**2. Turntable**, to be placed on the roller ring with the centre fitting to the coupler. **Purpose:** The turntable serves as the main cooking surface; it can be easily removed for cleaning.

DO NOT operate the microwave oven without the roller ring and turntable.

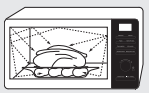
HOW A MICROWAVE OVEN WORKS

Microwaves are high-frequency electromagnetic waves; the energy released enables food to be cooked or reheated without the foods form or colour changing.

You can use your microwave oven to:

- Defrost (manual & auto)
- Cook
- Reheat

Cooking Principle.



1. The microwaves generated by the magnetron are distributed uniformly as the food rotates on the turntable. The food is thus cooked evenly.
2. The microwaves are absorbed by the food up to a depth of about 1 inch (2.5 cm). Cooking then continues as the heat is dissipated within the food.
3. Cooking times vary according to the recipient used and the properties of the food:
   - Quantity and density
   - Water content
   - Initial temperature (refrigerated or not)

As the centre of the food is cooked by heat dissipation, cooking continues even when you have taken the food out of the oven. Standing times specified in recipes and in this booklet must therefore be respected to ensure:

- Even cooking of the food right to the centre.
- The same temperature throughout the food.

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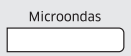
CHECKING THAT YOUR OVEN IS OPERATING CORRECTLY

The following simple procedure enables you to check that your oven is working correctly at all times.
Open the oven door by pulling the handle on the right side of the door.
Place a glass of water on the turntable. Then, close the door.

	**1.** Press the **Microwave** button.
	2. Set the time 4 to 5 minutes by turning the **Dial Knob** and press the **Start/+30s** button. **Result:** The oven light comes on and the turntable starts rotating. 1) Cooking starts and when it has finished the oven beeps 4 times. 2) The end reminder signal will beep 3 times (once every minute). 3) The current time is displayed again.

The oven must be plugged into an appropriate wall socket. The turntable must be in position in the oven. If a power level other than the maximum is used, the water takes longer to boil.

SETTING THE TIME

Your microwave oven has an inbuilt clock. When power is supplied, ":0", "88:88" or "12:00" is automatically displayed on the display.
Please set the current time. The time can be displayed in either the 12-hour notation.
You must set the clock:

- When you first install your microwave oven
- After a power failure

Do not forget to reset the clock when you switch to and from summer and winter time.

	1. To display the time in the... 12-hour notation Press the **Clock** button.
	2. Turn the **Dial Knob** to set the hour.
	3. Press the **Clock** button.
	4. Turn the **Dial Knob** to set the minute.
	5. Press the **Clock** button.

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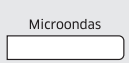
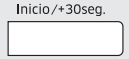
COOKING/REHEATING

The following procedure explains how to cook or reheat food.
ALWAYS check your cooking settings before leaving the oven unattended.
First, place the food in the centre of the turntable. Then, close the door.



1. Press the **Microwave** button.
Result: The 750 W (maximum cooking power) indications are displayed:
Select the appropriate power level by pressing the **Microwave** button again until the corresponding wattage is displayed. Refer to the power level table.

2. Set the cooking time by turning the **Dial Knob**.
Result: The cooking time is displayed.



3. Press the **Start/+30s** button.
Result: The oven light comes on and the turntable starts rotating.
1) Cooking starts and when it has finished the oven beeps 4 times.
2) The end reminder signal will beep 3 times (once every minute).
3) The current time is displayed again.

Never switch the microwave oven on when it is empty.

If you wish to heat a dish for a short period of time at maximum power (750 W), simply press the **Start/+30s** button once for each 30 seconds of cooking time. The oven starts immediately.

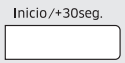
POWER LEVELS

You can choose among the power levels below.

Power level	Percentage
HIGH	PL 100 %
SAUTE	PL 90 %
REHEAT	PL 80 %
MEDIUM HIGH	PL 70 %
SIMMER	PL 60 %
MEDIUM	PL 50 %
MEDIUM LOW	PL 40 %
DEFROST	PL 30 %
LOW	PL 20 %
WARM	PL 10 %

If you select a...	Then the cooking time must be...
Higher power level	Decreased
Lower power level	Increased

ADJUSTING THE COOKING TIME



You can increase the cooking time by pressing the **Start/+30s** button once for each 30 seconds to be added.

Press the **Start/+30s** button once for each 30 seconds to be added.

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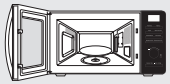
STOPPING THE COOKING

You can stop cooking at any time to check the food.



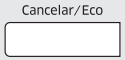
1. To stop temporarily;

1) Open the door.

Result: Cooking stops. To resume cooking, close the door and press the **Start/+30s** button again.

2) Press the **Stop/Eco** button.

Result: Cooking stops. To resume cooking, press the **Start/+30s** button again.

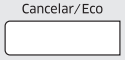


2. To stop completely;
Press the **Stop/Eco** button.

Result: The cooking stops. If you wish to cancel the cooking settings, press the **Stop/Eco** button again.

You can also cancel any setting before starting by simply pressing the **Stop/Eco** button.

SETTING THE ENERGY SAVE MODE



The oven has an energy save mode. This facility saves electricity when the oven is not in use. Normal condition is standby mode and show clock when not using.

- Press the **Energy Save** button.
  Result: Display off.
- To remove energy save mode, open the door and then display shows current time. The oven is ready for use.

USING THE DEODORIZE FEATURE

Use this feature after cooking odorous food or when there is a lot of smoke in the oven interior. First clean the oven interior.

Press the **Deodorization** button after you have finished cleaning. you will hear four beeps when it has finished.

The deodorization time has been specified as 5 minutes. It increases by 30 seconds whenever the **Start/+30s** button is pressed.

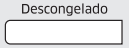
The maximum deodorization time is 15 minutes.

USING THE AUTO DEFROST FEATURE

The **Auto Defrost** feature enables you to defrost roast beef, pork, steaks, chops, fish, ground meat, whole chicken and chicken pieces.
The defrost time and power level are set automatically. You simply select the programme and the weight.

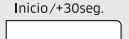
Use only dishes that are microwave-safe.

First, place the frozen food in the centre of the turntable and close the door.



1. Press the **Auto Defrost** button once. Then the display shows “1.0”. (Refer to the table on the side).

2. Set the weight of food by turning the **Dial Knob**.
It is possible to set up to a maximum of 2.6 kg.



3. Press the **Start/+30s** button.

Result:

- Defrosting begins.
- The oven beeps half way through defrosting to remind you to turn the food over.
- Press the **Start/+30s** button again to finish defrosting.

You can also defrost food manually. To do so, select the microwave cooking/ reheating function with a power level of 30 %. Refer to the section entitled “Cooking/ Reheating” on page 15 for further details.

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The following table presents the various **Auto Defrost** programmes, quantities and appropriate instructions. Remove all kinds of package material before defrosting.

Food	Serving size	Instructions
Roast Beef, Pork	1.1-2.6 kg	Start with the food placed fat side down. After each stage, turn the food over and shield any warm portions with narrow strips of aluminum foil.
Steaks, Chops, Fish	0.2-1.4 kg	After each stage, rearrange the food. If there are any warm or thawed portions of food, shield them with narrow flat pieces of aluminum foil. Remove any pieces of food that are nearly defrosted. Let stand, covered, for 5-10 minutes.
Ground Meat	0.2-1.4 kg	After each stage, remove any pieces of food that are nearly defrosted. Let stand, covered with foil, for 5-10 minutes.
Whole Chicken	1.1-2.6 kg	Remove giblets before freezing poultry. Start defrosting with the breast side down. After the first stage, turn the chicken over and shield any warm portions with narrow strips of aluminum foil. After the second stage, again shield any warm portions with narrow strips of aluminum foil. Let stand, covered, for 30-60 minutes in the refrigerator.
Chicken Pieces	0.2-1.4 kg	After each stage, rearrange or remove any pieces of food that are nearly defrosted. Let stand for 10-20 minutes.

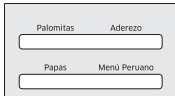
Check foods when the oven signals. After the final stage, small sections may still be icy; let them stand to continue thawing. Do not defrost until all ice crystals have thawed. Shielding roasts and steaks with small pieces of foil prevents the edges from cooking before the center of the food has defrosted.

Use narrow, flat, smooth strips of aluminum foil to cover the edges and thinner sections of the food.

USING THE AUTO COOK FEATURE

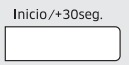
The **Auto Cook** features enables you to cook. You do not need to set either the cooking times or the power level. You can select the food servings by pressing the **Auto Cook** buttons.

First, place the food in the centre of the turntable and close the door.



1. Select the type of food that you are cooking by pressing the **Auto Cook** button once or more times.

2. Select the size of the serving by turning the **Dial Knob**. (Refer to the table on the side.)



3. Press the **Start/+30s** button.
Result: Cooking starts. When it has finished.
1) The oven beeps 4 times.
2) The end reminder signal will beep 3 times (once every minute).
3) The current time is displayed again.

Use only dishes that are microwave-safe.

The following table presents the **Auto Cook** programmes, quantities and appropriate instructions.

1. Aderezo

Food	Ingredients
Aderezo	Garlic powder – 1 teaspoon, Finely chopped medium onion – 1, Oil – 3 tablespoons
	Instructions Mix the ingredients in a bowl and cook in the oven without covering for 3 minutes.

(continued)

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2. Palomitas

Food	Serving size	Instructions
Palomitas	3 oz (85 g) 3.5 oz (100 g)	Use one microwave-only bag of popcorn. Use caution when removing and opening hot bag from oven.

3. Papas

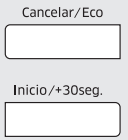
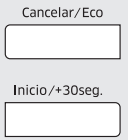
Food	Serving size	Instructions
Papas	1 to 4 ea	Prick each potato several times with fork. Place on turntable in spoke-like fashion. Remove from oven, wrap in foil and let stand for 3-5 min.

4. Menú Peruano

Code/Food	Serving size	Instructions
1 Vegetales Frescos	1 serving 2 servings 3 servings	Place the vegetables into a casserole and add a small amount of water (2-4 tbsp). Cover during cooking and stir before standing.
2 Cena Congelada	1 serving (230-290 g) 2 servings (290-340 g)	Remove package from outer wrapping and follow package instructions for covering and standing. After cooking, let stand for 1-3 min.
3 Hervir Agua	½ cup 1 cup 2 cups	Use a microwave-safe mug of room temperature coffee, tea, instant soup etc. Stir before serving.

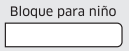
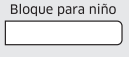
SWITCHING THE BEEPER OFF

You can switch the beeper off whenever you want.

	**1.** Press the **Stop/Eco** and **Start/+30s** buttons at the same time. **Result:** • The following indication is displayed. • The oven does not beep each time you press a button.
	**2.** To switch the beeper back on, press the **Stop/Eco** and **Start/+30s** buttons again at the same time. **Result:** • The following indication is displayed. • The oven operates with the beeper on again.

SAFETY-LOCKING YOUR MICROWAVE OVEN

Your microwave oven is fitted with a special Child Safety programme, which enables the oven to be “locked” so that children or anyone unfamiliar with it cannot operate it accidentally.
The oven can be locked at any time.

	**1.** Press the **Child Lock** button for one second. **Result:** • The oven is locked (no functions can be selected). • The display shows “L”.
	**2.** To unlock the oven, press the **Child Lock** button for one second. **Result:** The oven can be used normally.

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cookware guide

To cook food in the microwave oven, the microwaves must be able to penetrate the food, without being reflected or absorbed by the dish used.
Care must therefore be taken when choosing the cookware. If the cookware is marked microwave-safe, you do not need to worry.
The following table lists various types of cookware and indicates whether and how they should be used in a microwave oven.

Cookware	Microwave-safe	Comments
Aluminum foil	✓✗	Can be used in small quantities to protect areas against overcooking. Arcing can occur if the foil is too close to the oven wall or if too much foil is used.
Crust plate	✓	Do not preheat for more than 8 minutes.
China and earthenware	✓	Porcelain, pottery, glazed earthenware and bone china are usually suitable, unless decorated with a metal trim.
Disposable polyester cardboard dishes	✓	Some frozen foods are packaged in these dishes.
Fast-food packaging		
• Polystyrene cups containers	✓	Can be used to warm food. Overheating may cause the polystyrene to melt.
• Paper bags or newspaper	✗	May catch fire.
• Recycled paper or metal trims	✗	May cause arcing.
Glassware		
• Oven-to-tableware	✓	Can be used, unless decorated with a metal trim.
• Fine glassware	✓	Can be used to warm foods or liquids. Delicate glass may break or crack if heated suddenly.
• Glass jars	✓	Must remove the lid. Suitable for warming only.
Metal		
• Dishes	✗	May cause arcing or fire.
• Freezer bag twist ties	✗	
Paper		
• Plates, cups, napkins and kitchen paper	✓	For short cooking times and warming. Also to absorb excess moisture.
• Recycled paper	✗	May cause arcing.
Plastic		
• Containers	✓	Particularly if heat-resistant thermoplastic. Some other plastics may warp or discolour at high temperatures. Do not use Melamine plastic.
• Cling film	✓	Can be used to retain moisture. Should not touch the food. Take care when removing the film as hot steam will escape.
• Freezer bags	✓✗	Only if boilable or oven-proof. Should not be airtight. Prick with a fork, if necessary.
Wax or grease-proof paper	✓	Can be used to retain moisture and prevent spattering.

✓ **: Recommended** ✓✗ **: Use Caution** ✗ **: Unsafe**

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MICROWAVES

Microwave energy actually penetrates food, attracted and absorbed by its water, fat and sugar content.
The microwaves cause the molecules in the food to move rapidly. The rapid movement of these molecules creates friction and the resulting heat cooks the food.

COOKING

Cookware for microwave cooking:
Cookware must allow microwave energy to pass through it for maximum efficiency. Microwaves are reflected by metal, such as stainless steel, aluminium and copper, but they can penetrate through ceramic, glass, porcelain and plastic as well as paper and wood. So food must never be cooked in metal containers.

Food suitable for microwave cooking:
Many kinds of food are suitable for microwave cooking, including fresh or frozen vegetables, fruit, pasta, rice, grains, beans, fish, and meat. Sauces, custard, soups, steamed puddings, preserves, and chutneys can also be cooked in a microwave oven. Generally speaking, microwave cooking is ideal for any food that would normally be prepared on a hob. Melting butter or chocolate, for example (see the chapter with tips, techniques and hints).

Covering during cooking
To cover the food during cooking is very important, as the evaporated water rises as steam and contributes to cooking process. Food can be covered in different ways: e.g. with a ceramic plate, plastic cover or microwave suitable cling film.

Standing times
After cooking is over food the standing time is important to allow the temperature to even out within the food.

Guide for cooking meat in your microwave

Place meat on a microwave-safe roasting rack in a microwave-safe dish.
Start meat fat-side down. Use narrow strips of aluminum foil to shield any bone tips or thin meat areas. Check the temperature in several places before letting the meat stand the recommended time. The following temperatures are removal temperatures.
The temperature of the food will rise during the standing time.

Food	Cook Time	Power Level
Roast Beef Boneless Up to 1.8 kg	7-11 min. 454 g for 46 °C - Rare 8-12 min. 454 g for 49 °C - Medium 9-14 min. 454 g for 63 °C - Well Done	High for first 5 min., then Medium
	Directions Place roast fat-side down on roasting rack. Cover with wax paper. Turn over when cooking time is half up. Let stand for 10 min.	
Pork boneless or bone-in Up to 1.8 kg	11-15 min. 454 g for 71 °C - Well Done	High for first 5 min., then Medium
	Directions Place roast fat-side down on roasting rack. Cover with vented plastic wrap. Turn over when cooking time is half up. Let stand for 5-10 min.	

Guide for cooking poultry in your microwave

Place poultry on a microwave-safe roasting rack in a microwave-safe dish.
Cover poultry with wax paper to prevent spattering. Use aluminum foil to shield bone tips, thin meat areas, or areas that start to overcook. Check the temperature in several places before letting the poultry stand the recommended time.

Food	Cook Time	Power Level
Whole Chicken Up to 1.8 kg	6-9 min. 454 g 77-82 °C	High
	Directions Place chicken breast-side down on roasting rack. Cover with wax paper. Turn over when the cooking time is half up. Cook until juices run clear and meat near the bone is no longer pink. Let stand for 5-10 min.	

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Food	Cook Time	Power Level
Chicken Pieces Up to 907 g	6-9 min. 454 g 82 °C dark meat 77 °C light meat	High
	Directions Place chicken bone-side down on dish, with the thickest portions towards the outside of the dish. Cover with wax paper. Turn over when the cooking time is half up. Cook until juices run clear and meat near the bone is no longer pink. Let stand for 5-10 min.	

Guide for cooking seafood in your microwave

Cook fish until it flakes easily with a fork. Place fish on a microwave-safe roasting rack in a microwave-safe dish. Use a tight cover to steam fish. A lighter cover of wax paper or paper towel provides less steaming. Do not overcook fish; check it at minimum cooking time.

Food	Cook Time	Power Level
Steaks Up to 680 g	6-10 min. 454 g	Medium-High
	Directions Arrange steaks on roasting rack with meaty portions towards the outside of rack. Cover with wax paper. Turn over and rearrange when cooking time is half up. Cook until fish flakes easily with a fork. Let stand for 3-5 min.	
Fillets Up to 680 g	3-7 min. 454 g	High
	Directions Arrange fillets in a baking dish, turning any thin pieces under Cover with wax paper. If over ½ inch thick, turn over and rearrange when cooking time is half up. Cook until fish flakes easily with a fork. Let stand for 2-3 min.	
Shrimp Up to 680 g	3-5 min. 454 g	High
	Directions Arrange shrimp in a baking dish without overlapping or layering. Cover with wax paper. Cook until firm and opaque, stirring 2 or 3 times. Let stand for 5 min.	

Guide for cooking eggs in your microwave

Never cook eggs in the shell, and never warm hard-cooked eggs in the shell; they can explode. Always pierce whole eggs to keep them from bursting.
Cook eggs just until set; they become tough if overcooked.

Guide for cooking vegetables in your microwave

Vegetables should be washed just before cooking. Often, no extra water is needed. If dense vegetables such as potatoes, carrots and green beans are being cooked, add about ¼ cup water. Small vegetables (sliced carrots, peas, lima beans, etc.) will cook faster than larger ones.
Whole vegetables, such as potatoes, acorn squash or corn on the cob, should be arranged in a circle on the turntable before cooking. They will cook more evenly if turned over after half the cooking time. Always place vegetables like asparagus and broccoli with the stem ends pointing towards the edge of the dish and the tips toward the center. When cooking cut vegetables, always cover the dish with a lid or vented microwavable plastic wrap. Whole, unpeeled vegetables such as potatoes, squash, eggplant, etc, should have their skin pricked in several spots before cooking to prevent them from bursting. For more even cooking, stir or rearrange whole vegetables halfway through the cooking time. Generally, the denser the food, the longer the standing time. (Standing time refers to the time necessary for dense, large foods and vegetables to finish cooking after they come out of the oven.) A baked potato can stand on the counter for five minutes before cooking is completed, while a dish of peas can be served immediately.

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TIPS AND TRICKS

MELTING CRYSTALLIZED HONEY

Put 20 g crystallized honey into a small deep glass dish.
Heat for 20-30 seconds using 30 %, until honey is melted.

MELTING GELATINE

Lay dry gelatine sheets (10 g) for 5 minutes into cold water.
Put drained gelatine into a small glass pyrex bowl.
Heat for 1 minute using 30 %.
Stir after melting.

COOKING GLAZE/ICING (FOR CAKE AND GATEAUX)

Mix instant glaze (approximately 14 g) with 40 g sugar and 250 ml cold water.
Cook uncovered in a glass pyrex bowl for 3½ to 4½ minutes using 90 %, until glaze/icing is transparent. Stir twice during cooking.

COOKING JAM

Put 600 g fruits (for example mixed berries) in a suitable sized glass pyrex bowl with lid.
Add 300 g preserving sugar and stir well.
Cook covered for 10-12 minutes using 90 %.
Stir several times during cooking. Empty directly into small jam glasses with twist-off lids.
Stand on lid for 5 minutes.

COOKING PUDDING/ CUSTARD

Mix pudding powder with sugar and milk (500 ml) by following the manufacturers instructions and stir well. Use a suitable sized glass pyrex bowl with lid. Cook covered for 6½ to 7½ minutes using 90 %.
Stir several times well during cooking.

BROWNING ALMOND SLICES

Spread 30 g sliced almonds evenly on a medium sized ceramic plate.
Stir several times during browning for 3½ to 4½ minutes using 60 %.
Let it stand for 2-3 minutes in the oven. Use oven gloves while taking out!

troubleshooting and error code

TROUBLESHOOTING

If you have any of the problems listed below try the solutions given.

This is normal.

- Condensation inside the oven.
- Air flow around the door and outer casing.
- Light reflection around the door and outer casing.
- Steam escaping from around the door or vents.

The oven does not start when you press the Start/+30s button.

- Is the door completely closed?

The food is not cooked at all.

- Have you set the timer correctly and/or pressed the **Start/+30s** button?
- Is the door closed?
- Have you overloaded the electric circuit and caused a fuse to blow or a breaker to be triggered?

The food is either overcooked or undercooked.

- Was the appropriate cooking length set for the type of food?
- Was an appropriate power level chosen?

The light bulb is not working.

- The Light bulb should not be replaced in person for safety reasons. Please contact nearest authorised Samsung customer care, to arrange for a qualified engineer to replace the bulb.

The oven causes interference with radios or televisions.

- Slight interference may be observed on televisions or radios when the oven is operating. This is normal. To solve this problem, install the oven away from televisions, radios and aerials.
- If interference is detected by the oven's microprocessor, the display may be reset. To solve this problem, disconnect the power plug and reconnect it. Reset the time.

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Smoke and bad smell when initial operating.

- It's a temporary condition by new component heating. Smoke and smell will disappear completely after 10 minutes operation.
  To remove smell more quickly, please operate microwave oven with putting lemon formation or lemon juice in the cabinet.

Sparking and cracking occur inside the oven (arcing).

- Have you used a dish with metal trimmings?
- Have you left a fork or other metal utensil inside the oven?
- Is aluminum foil too close to the inside walls?

If the above guidelines do not enable you to solve the problem, then contact your local SAMSUNG customer service centre.
Please have the following information read;

- The model and serial numbers, normally printed on the rear of the oven
- Your warranty details
- A clear description of the problem

Then contact your local dealer or SAMSUNG aftersales service.

For the power level set to over 70 % of power level, after the first 20 minutes the power level will automatically adjusted to 70 % of power level to avoid overcooking.

ERROR CODE

"SE" message indicates.

- The "SE" message indicate "Key Short" error happen.
  Please check if one or more buttons are pressed for a long time.
  Turn off the microwave oven and try setting again.

For any codes not listed above, or if the suggested solution does not solve the problem, contact your local SAMSUNG Customer Care Centre.

GRACIAS POR ELEGIR A SAMSUNG

Su horno nuevo representa lo último en tecnología de cocción con microondas. Este horno es un electrodoméstico con todas las funciones y fácil de usar, construido para cumplir estándares estrictos de calidad establecidos por SAMSUNG: los más altos en la industria. Estamos orgullosos de ofrecerle un producto que proporcionará servicio conveniente y confiable durante años por venir.

Por favor registre el número de serie de la parte trasera o interior de su horno de microondas SAMSUNG así como la fecha de compra en los espacios provistos abajo. Le recomendamos guardar su recibo de compra con este manual para facilitar el servicio en garantía.

Número de modelo _____

Número de serie _____

Fecha de compra _____

Distribuidor _____

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technical specifications

SAMSUNG strives to improve its products at all times. Both the design specifications and these user instructions are thus subject to change without notice.

Model	MS23F301TA*
Power source	220 V ~ 60 Hz
Power consumption	
Microwave	1200 W
Output power	75 W ~ 750 W (IEC-705)
Operating frequency	2450 MHz
Magnetron	OM75S (31)
Cooling method	Cooling fan motor
Dimensions (W x H x D)	
Outside	489 x 275 x 374 mm
Oven cavity	330 x 211 x 324 mm
Volume	0.8 cu.ft
Weight	
Net	12 kg

QUESTIONS OR COMMENTS

COUNTRY	CALL	OR VISIT US ONLINE AT
MEXICO	01-800-SAMSUNG(726-7864)	www.samsung.com/mx/support
ARGENTINE	0800-333-3733	www.samsung.com/ar/support
URUGUAY	000-405-437-33	www.samsung.com/latin/support (Spanish) www.samsung.com/latin_en/support (English)
PARAGUAY	009-800-542-0001	
BRAZIL	0800-124-421 (Demais cidades e regiões) 4004-0000 (Capitais e grandes centros)	www.samsung.com/br/support
CHILE	800-SAMSUNG(726-7864)	www.samsung.com/cl/support
BOLIVIA	800-10-7260	www.samsung.com/cl/support
COLOMBIA	Bogotá 600 12 72 Gratis desde cualquier parte del país 01 8000 112 112 ó desde su celular #SAM(726)	www.samsung.com/co/support
COSTA RICA	0-800-507-7267 00-800-1-SAMSUNG (726-7864)	www.samsung.com/latin/support (Spanish) www.samsung.com/latin_en/support (English)
DOMINICA	1-800-751-2676	
ECUADOR	1-800-10-72670 1-800-SAMSUNG (72-6786)	
EL SALVADOR	800-6225	
GUATEMALA	1-800-299-0013 1-800-299-0033	
HONDURAS	800-27919267 800-2791-9111	
JAMAICA	1-800-234-7267 1-800-SAMSUNG (726-7864)	www.samsung.com/latin_en/support (English)
NICARAGUA	001-800-5077267	www.samsung.com/latin/support (Spanish) www.samsung.com/latin_en/support (English)
PANAMA	800-7267 800-0101	
PERU	0-800-777-08	www.samsung.com/pe/support
PUERTO RICO	1-800-682-3180	www.samsung.com/latin/support (Spanish) www.samsung.com/latin_en/support (English)
TRINIDAD & TOBAGO	1-800-SAMSUNG(726-7864)	
VENEZUELA	0-800-SAMSUNG (726-7864)	www.samsung.com/ve/support

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